Nitsch Engineering

2 Center Plaza, Suite 430
Boston, MA 02108-1928
T: 617-338-0063
F: 617-338-6472
www.nitscheng.com

February 14, 2014

Mr. Kenneth Motta
Chairman
New Bedford Conservation Commission
New Bedford City Hall
133 William Street
New Bedford, MA 02744

RE: Nitsch Project #8483
Cardinal Place
Review Letter
New Bedford, MA

Dear Mr. Motta:

This letter is in regard to the proposed Cardinal Place residential subdivision project located off of Swallow Street in New Bedford, Massachusetts. Nitsch Engineering has reviewed the following revised items submitted as part of the proposed project:

- Response to Comments Letter, prepared by Prime Engineering, Inc., dated February 4, 2014;
- Plan set entitled, "Cardinal Place, Definitive Plan for a Residential Subdivision, Ava's Way, New Bedford, Massachusetts," prepared by Prime Engineering, Inc., revised February 3, 2014; and
- Development Impact Report, "Cardinal Place" Residential Subdivision, prepared by Prime Engineering, Inc., dated February 3, 2014.

Nitsch Engineering's comments on the submitted documents, regarding drainage design only, are provided below:

1. The Applicant has added a seventh lot to the project. This lot is located north of the previous project and is currently developed with buildings. Although the overall areas of the drainage calculations have been modified slightly, the drainage analysis only accounts for a small portion of the new lot.

2. The roadway design has also been altered and now includes two (2) connected roads that end in a cul-de-sac with a total length of 360 feet. This configuration includes a squared-off intersection. The previous roadway was approximately 260 feet long. Due to the new roadway design, it appears there is more impervious area associated with the road. However, the new drainage calculations appear to show a decrease in the impervious area associated with the road of approximately 860 square feet.

3. As noted previously, the revised drainage design collects the runoff from the westernmost portion of Ava's Way in a trench drain. Nitsch Engineering has reached out to the Department of Public Infrastructure (DPI) regarding their opinion on the trench drain being placed in a future public way. As of the writing of this letter, we have not received a response. We recommend that the Commission coordinate directly with DPI regarding this important element of the plan. A trench drain detail is not included on the revised plan set and should be added to the plans.

4. The revised drainage calculations indicate a minor increase in the peak runoff rate to Design Point 2 (southern wetland) in the 100-year design storm. However, there appears to be a reduction in the peak runoff rate for the overall project site, which complies with the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Management Standards.

5. As noted previously, the proposed leaching pits surcharge the Stormceptor in the 10- and 100-year design storms. We agree with the Applicant's Engineer that Stormceptor will provide adequate water quality treatment; however, because water will flow back from the leaching pit into the Stormceptor during large storm events, there is the potential for resuspension of sediment within the Stormceptor and subsequent discharge. As a simple solution, we recommend that the Applicant include the Stormceptor insert that is designed for submerged conditions in the proposed design.

6. The Applicant has removed the proposed homes and associated infiltration systems from the plans. Although we understand that individual Notices of Intent (NOI) will be filed for each lot, how the impervious surfaces on each lot are handled is important when comparing pre- and post-development flows. We recommend that the Commission include a condition in the Order of Conditions that requires infiltration units be installed to collect and fully infiltrate the runoff (up to the 100-year storm) from the roofs. Calculations should be provided with each subsequent NOI Application.

7. The revised plans include work within the 25-foot wetland buffer, including construction of the outlet swale for the smaller basin (Pond 3P) that is located near Swallow Street. The grading for the swale extends to within five (5) feet of the wetland line.

If you have any questions, please call us at 617-338-0063.

Very truly yours,

**Nitsch Engineering, Inc.**

Jennifer L. Johnson, PE, LEED AP BD+C, CPSWQ
Project Engineer

Scott D. Turner, PE, AICP, LEED AP ND
Director of Planning

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